

Serial No. 10/735,766
Amdt. dated May 7, 2007
Reply to Office Action of February 7, 2007

Docket No. P-0610

REMARKS

Claims 1-20, 22-34, and 36-40 are pending. Claims 1, 5-12, 16, 19, 22, 23-27, 30, and 34 have been amended, claims 21 and 35 have been canceled, and new claims 36-40 have been added to recite additional features of the embodiments disclosed in the specification.

In the Office Action, claims 8, 11, 12, 22, and 24 were found to be objectionable for reciting that the speed of the signal from the transmitting end (or mobile terminal) is measured. The claims have been amended to more accurately recite that the speed of the transmitting end or mobile terminal is measured.

The claims have further been amended to recite that the despreader outputs different “signal components” of a “received signal.” (See Figure 5 for support). It is respectfully submitted that these amendments are sufficient to overcome the drawing objection. Also, claim 21 has been canceled to remove the § 112, first paragraph, rejection.

Claims 1-21 were rejected under 35 USC § 101 on grounds that these claims do not recite a tangible result. Claim 1 has been amended to recite “controlling a signal searching process of a receiving end coupled to a base station modem to recognize a signal from the transmitting end.” The recognition of a signal in a base station modem constitutes a tangible result. Accordingly, it is submitted that claim 1 and its dependent claims satisfy the requirements of § 101. Claim 8 and its dependent claims recite similar features and therefore are also in compliance with § 101.

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Claims 1-35 were rejected under 35 USC § 103(a) for being obvious in view of a combination of Figure 3 of Applicants' drawings (Figure 3) and the Chen patent publication. Applicants request the Examiner to withdraw this rejection for the following reasons.

Claim 1 recites controlling a signal searching process of a receiving end coupled to a base station modem to recognize a signal from the transmitting end. This controlling step includes comparing the signal-to-noise ratio to a predetermined level and "controlling an accumulation slot number to be set by a non-coherent accumulator according to the measured moving speed and based on a result of the comparison." These features are not taught or suggested by the cited references.

Figure 3 does not include a signal-to-noise ratio estimator and therefore does not perform the comparing and controlling steps added by amendment to claim 1. To make up for deficiencies of Figure 3, the Chen publication was cited.

The Chen publication only discloses performing coherent demodulation based on a weight determined by the quality of a received pilot signal. (See Paragraph [0087]). Chen does not perform non-coherent accumulation, and more specifically does not perform the functions of comparing the signal-to-noise ratio to a predetermined level and controlling an accumulation slot number to be set by a non-coherent accumulator according to the measured moving speed and based on a result of the comparison. Based on these differences, it is respectfully submitted that claim 1 and its dependent claims are allowable.

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Claim 8 recites controlling a signal searching process of a receiving end coupled to a base station modem to recognize the signal from the transmitting end, said controlling including “controlling an accumulation slot number set by the non-coherent multi-slot accumulation according to the moving speed and the signal-to-noise ratio.” The Chen publication does not disclose these features. Applicants therefore submit that claim 8 and its dependent claims are allowable.

Claim 22 recites the features of “a signal-to-interference ratio estimator which . . . corrects the control information generated by the Doppler estimator based on the signal-to-noise ratio” and “a non-coherent accumulator which accumulates a signal size added by the adder and controls an accumulation slot number based on the speed determined by the Doppler estimator and the corrected control information from the signal-to-interference ratio estimator.” The Chen publication does not disclose these features.

Chen discloses determining the quality of a received pilot signal and then generating a weight to perform coherent demodulation. Chen, however, does not disclose that the circuit used to determine the quality of the pilot signal also “corrects control information generated by a Doppler estimator based on the signal-to-noise ratio.” Chen also fails to disclose a non-coherent accumulator which “controls an accumulation slot number based on the speed determined by the Doppler estimator and the corrected control information from the signal-to-interference ratio estimator.” Applicants submit that claim 22 and its dependent claims are allowable based

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on these differences.

Claim 28 recites that the signal-to-interference ratio estimator of claim 22 “compensates for a control signal transmitted to the non-coherent accumulator according to the determined signal-to-noise ratio.” These features are not taught or suggested by the Chen publication. It is therefore respectfully submitted that claim 28 is allowable, not only by virtue of its dependency from claim 22 but also based on the features separately recited therein.

Claim 29 recites that, when the signal-to-noise ratio is determined to be below a predetermined value, the signal-to-interference ratio estimator of claim 22 “compensates for the control signal for increasing the slot number transmitted to the non-coherent accumulator to a fixed slot number.” These features are not taught or suggested by the Chen publication. It is therefore respectfully submitted that claim 29 is allowable, not only by virtue of its dependency from claim 22 but also based on the features separately recited therein.

New claims 36-40 have been added to the application.

Claim 36 recites that the accumulation slot number of claim 1 is “set by the non-coherent accumulator to achieve a desired mean acquisition time for recognizing the signal transmitted from the transmitting device.” These features are not taught or suggested by the cited references, whether taken alone or in combination.

Claim 37 recites that the non-coherent accumulator of claim 1 “increases the accumulation slot number when the signal-to-noise ratio is lower than the predetermined level.”

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These features are not taught or suggested by the cited references, whether taken alone or in combination.

Claim 38 recites the additional steps of “generating a control signal from a Doppler Estimator based on the moving speed of the transmitting device; adjusting the control signal from the Doppler Estimator based on a result of the comparison of the signal-to-noise ratio to the predetermined level; and controlling the accumulation slot number to be set by the non-coherent accumulator based on the adjusted control signal.” These features are not taught or suggested by the cited references, whether taken alone or in combination.

Claim 39 recites that “the control signal generated by the Doppler Estimator is indicative of a weight and wherein the adjusted control signal adjusts the weight based on a result of the comparison of the signal-to-noise ratio to the predetermined level.” These features are not taught or suggested by the cited references, whether taken alone or in combination.

Claim 40 recites that “the adjusted control signal adjusts the weight to achieve a desired mean acquisition time of the signal transmitted by the transmitting device.” These features are not taught or suggested by the cited references, whether taken alone or in combination.

In view of the foregoing amendments and remarks, it is respectfully submitted that the application is in condition for allowance. Favorable consideration and timely allowance of the application are respectfully requested.

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To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this, concurrent and future replies, including extension of time fees, to Deposit Account 16-0607 and please credit any excess fees to such deposit account.

Respectfully submitted,



Daniel Y.J. Kim, Esq.
Registration No. 36,186
Samuel W. Ntiros, Esq.
Registration No. 39,318

P.O. Box 221200
Chantilly, Virginia 20153-1200
703 766-3701 DYK/SWN:
Date: May 7, 2007

Please direct all correspondence to Customer Number 34610

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